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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/313,289 05/13/99 CHISHTI

M 09943/007001

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QM32/0606

EXAMINER

WILSON, J

ART UNIT

PAPER NUMBER

3732

DATE MAILED:

06/06/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/313,289

Applicant(s)

Chishti

Examiner

John J. Wilson

Group Art Unit

3732



☒ Responsive to communication(s) filed on May 13, 1999

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire THREE month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-52 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-52 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 3303

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-90 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. These claims are directed to using a computer to merely do calculations. There are no steps other than gathering data, manipulating data and/or displaying data. As such, these claims are non-statutory.

Claim Rejections - 35 USC § 112

Claims 1-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are directed to a digital data set representing the teeth, however, in dependent claims, see claim 7 for example, the claims refer to the teeth. It is not clear if the claims are referring to the digital data set or to the actual teeth. Also in dependent claims, see claim 7 for example, the claims refer to "per stage" or "the stage". There is no antecedent basis for stage.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-27, 30-39 and 41-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (717). Andreiko shows receiving initial data, Figs 2G-2I, receiving constraints, column 23, lines 1 and 2, calculating the finished tooth positions, column 13, lines 42-53, and treatment, column 14, lines 10-26. Andreiko teaches knowing the initial position and final position and providing a treatment prescription, however, does not show "paths". In view of the above teaching, calculating the paths needed to move the teeth from the initial to the final positions would be obvious to one of ordinary skill in the art in order to formulate the treatment prescription. The specific constraints used are obvious matters of choice in known orthodontic constraints used when moving teeth to the skilled artisan. As to claim 7, Andreiko teaches rotational forces, column 5, lines 40-45. As to claim 9, Andreiko teaches moving in steps, column 25, lines 60-67 and column 26, lines 1-45. As to claim 10, the degree of movement is an obvious matter of choice in the degree of a known parameter to one of ordinary skill in the art. The manner of storing and processing data is an obvious matter of choice in known data manipulation to the skilled artisan. Moving teeth so that they do not collide would be an obvious step in determining an orthodontic prescription to one of ordinary skill in the art. As to claim 27, see

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column 5, lines 17-20. As to claim 31, the type of graphics program used is an obvious matter of choice in known graphic displays to the skilled artisan. As to claims 32-36, see column 13, lines 60-65. The specific image selected is an obvious matter of choice in the selection process to the skilled artisan. As to claim 37, see column 17, lines 6-10. As to claim 39, see column 14, lines 5-8.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al as applied to claim 1 above, and further in view of Wu et al (198) and Robertson (309). Andreiko does not show animating movement of the teeth. Wu teaches simulating movement of the teeth, column 7, lines 7-10 and 30-35, while Robertson teaches using animation in dentistry, column 7, lines 63-69 and column 8, lines 1-28. It would be obvious to one of ordinary skill in the art to modify Andreiko to include simulating the movement of teeth using animation as shown by Wu and Robertson in order to provide added visual inspection of the teeth.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al in view of Wu et al and Robertson as applied to claim 28 above, and further in view of Strasnick et al. The above combination does not show graphic input controls. Strasnick teaches graphic input controls, column 8, lines 2-10. It would be further obvious to one of ordinary skill in the art to modify the above combination to include the use of graphic input controls as shown by Strasnick

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in order to allow for easier user handling. The specific type of graphic tools used is an obvious matter of choice in known graphic tools to one of ordinary skill in the art.

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al in view of Wu et al and Robertson as applied to claim 27 above, and further in view of Strasnick et al. The above combination does not show graphic input controls. Strasnick teaches graphic input controls, column 8, lines 2-10. It would be further obvious to one of ordinary skill in the art to modify the above combination to include the use of graphic input controls as shown by Strasnick in order to allow for easier user handling.

Drawings

New formal drawings are required in this application because, see attached form PTO-948. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the Patent and Trademark Office no longer prepares new drawings.

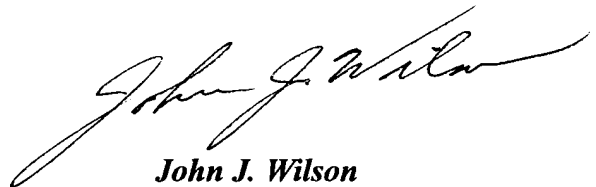
Serial Number: Test

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Conclusion

Any inquiry concerning this communication should be directed to John Wilson at telephone number (703) 308-2699.

A handwritten signature in black ink, appearing to read "John J. Wilson". The signature is fluid and cursive, with a long horizontal stroke at the end.

**John J. Wilson
Primary Examiner
Art Unit 3732**

jjw
June 2, 2000
Fax 703-308-2708